

## A SEMI-AUTOMATED COMBINATION OF CHIRPED-PULSE AND CAVITY FOURIER TRANSFORM MICROWAVE SPECTROSCOPY

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A combination of chirped-pulse Fourier transform microwave (CP-FTMW) spectroscopy and cavity Fourier transform microwave (c-FTMW) spectroscopy has been used to analyze the spectra of 3,4-difluorobenzaldehyde and two distinct fluoropyridine – carbon dioxide complexes. In all cases, the 8 – 18 GHz CP-FTMW spectrum was measured, and the most intense transitions were chosen for further analysis. The intensities of the identified transitions were measured at multiple polarization powers using the c-FTMW spectrometer. Subsequently, a series of double-resonance experiments were performed on these transitions, again using the c-FTMW spectrometer, in order to discover which transitions shared a common quantum state. Following the double-resonance experiments, the assignments of the spectra were trivial. The results of the spectroscopic analysis, as well as the semi-automated method, will be presented.